8-Port 10/100/1000Mbps + 2 SFP Shared

Industrial Gigabit Ethernet Switch

IGS-802T

User's Manual

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Revision

PLANET 8-Port 10/100/1000Mbps + 2 SFP Shared Industrial Gigabit Ethernet Switch User's Manual

For Model: IGS-802T

Revision: 1.1 (April, 2011)

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1. Introduction

1.1 Package Contents

Check the contents of your package for following parts:

- Industrial Gigabit Ethernet Switch x 1
- User's Manual x 1
- DIN Rail Kit x 1
- Wall Mount Kit x 1

If any of these are missing or damaged, please contact your dealer immediately, if possible, retain the carton including the original packing material, and use them against to repack the product in case there is a need to return it to us for repair.

In the following section, the term "Industrial Gigabit Ethernet Switch" means the IGS-802T.

1.2 How to Use This Manual

This Industrial Gigabit Ethernet Switch User Manual is structured as follows:

Chapter 2 Installation
The chapter explains the feature, functionality and the physical installation of the Industrial Gigabit Ethernet Switch.

Chapter 3 Application
The chapter explains the Industrial Gigabit Ethernet Switch application.

Chapter 4 Switch operation
The chapter explains the Industrial Gigabit Ethernet Switch transmit operation.

Chapter 5 Troubleshooting
The chapter explains the troubleshooting of the Industrial Gigabit Ethernet Switch.

Appendix A
This chapter contains cable information of the Industrial Gigabit Ethernet Switch.

1.3 Product Features

Physical Port

- 8-Port 10/100/1000Base-T RJ-45 with auto MDI / MDI-X function
- 2 SFP combo interface, SFP (Mini-GBIC) shared with port 7 & port 8

Layer 2 Features

- Supports Auto-negotiation and 10/100Mbps half / full duplex and 1000Mbps full duplex mode
- High performance Store and Forward architecture, runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- Prevents packet loss with back pressure (Half-Duplex) and IEEE 802.3x PAUSE frame flow control (Full-Duplex)
- Backplane (Switching Fabric): 16Gbps
- Integrated address look-up engine, support 8K absolute MAC addresses
- Automatic address learning and address aging
- CSMA/CD Protocol

Industrial Case / Installation

- IP-30 Aluminum metal case / Protection
- DIN Rail and Wall Mount Design
- 12 to 48V DC, redundant power with polarity reverse protect function and connective removable terminal block for master and slave power
- Supports EFT protection 6000 VDC for power line
- Supports 6000 VDC Ethernet ESD protection
- -40 to 75 Degree C operating temperature

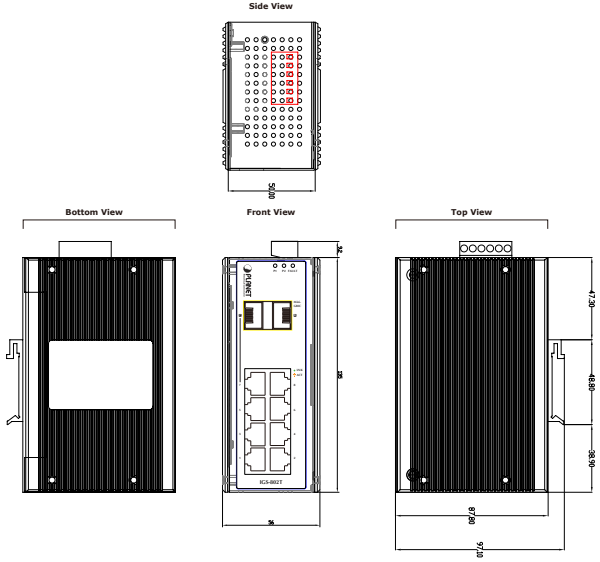
1.4 Product Specifications

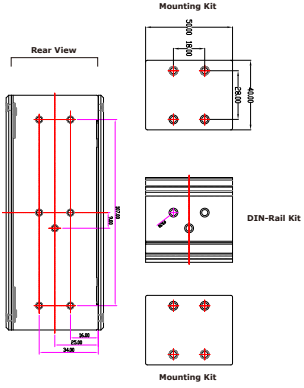
Model	IGS-802T
Hardware Specification	
10/100/1000Base-T Ports	8
SFP Interfaces	Shared with port 7 & port 8
Dimension (W x D x H)	135 x 87 x 56 mm
Weight	710g
Power Requirement	12~48V DC, Redundant power with polarity reverse protection function
Power Consumption / Dissipation	19 Watts / 64 BTU
Installation	DIN rail kit and wall mount ear
Alarm	Provides one relay output for power fail Alarm Relay current carry ability: 1A @ DC 24V
Switch Specification	
Switch Processing Scheme	Store-and-Forward
Address Table	8K entries
Flow Control	Back pressure for half duplex IEEE 802.3x Pause Frame for full duplex
Switch fabric	16Gbps
Throughput (packet per second)	11.9Mpps
Maximum Transmit Unit	1632bytes
Network cables	**10/100/1000Base-T :** Cat. 3, 4, 5, 5e, 6 UTP cable (100meters, max.) EIA/TIA-568 100-ohm STP (100meters, max.) **1000Base-SX :** 50/125μm or 62.5/125μm multi-mode fiber optic cable, up to 550m (vary on SFP module) **1000Base-LX :** 9/125μm single-mode fiber optic cable, up to 10/20/30/40/50/70/120 kilometers (vary on SFP module)

Standards Conformance	
Standards Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3ab Gigabit Ethernet IEEE 802.3z Gigabit Ethernet IEEE 802.3x Full-Duplex Flow Control
Regulation Compliance	FCC Part 15 Class A, CE
Stability testing	IEC60068-2-32(Free fall) IEC60068-2-27(Shock) IEC60068-2-6(Vibration)
Environment	
Temperature	Operating: -40~75 Degree C Storage: -40~75 Degree C
Humidity	Operating: 5~90% Storage: 5~90% (Non-condensing)

1.5 Physical Dimension

IGS-802T Industrial Gigabit Switch dimension (W x D x H): 135 x 87 x 56 mm





2. Installation

This section describes the functionalities of the Industrial Gigabit Ethernet Switch's components and guides how to install it on the desktop. Basic knowledge of networking is assumed. Please read this chapter completely before continuing.

2.1 Product Description

The IGS-802T equipped with eight 10/100/1000Base-T auto-negotiation ports and two SFP slots. The two SFP slots are shared with port 7 & port 8, it also compatible with 1000Base-SX / LX through SFP (Small Form Factor Pluggable) fiber-optic transceivers. The fiber optical uplink capability guarantees the throughput to all nodes hooked into the network and the Gigabit Ethernet distance can be extended from 550 meters (Multi-Mode fiber cable) up to 10/20/30/40/50/70/120 kilometers (Single-Mode fiber cable). They are well suited for applications within the factory data centers and distributions.

With IP-30 industrial case protection, the IGS-802T provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in curb side traffic control cabinets. The compact, IP-30 standard metal case of IGS-802T allows either DIN rail or wall mounting for efficient use of cabinet space.

Being able to operate under the temperature range from **-40 to 75 Degree C**, the IGS-802T can be placed in almost any difficult environment. The IGS-802T also possesses an integrated power supply source with wide range of voltages (12 to 48V DC) for worldwide high availability applications requiring dual or backup power inputs.

The IGS-802T has 8K MAC Address table and offers wire-speed packets transfer performance without risk of packet loss, the high data throughput of the device makes it ideal for most Gigabit environments. With a **16Gbps** internal switching fabric and featuring auto negotiation support in each Gigabit port, the IGS-802T Industrial Gigabit Ethernet Switch can handle large amounts of data in a secure topology linking to a backbone or high capacity servers.

The flow control function enables the IGS-802T to provide fast and reliable data transfer, all of the RJ-45 copper interfaces in the IGS-802T support 10/100/1000Mbps Auto-Negotiation for optimal speed detection through RJ-45 Category 6, 5 or 5e cables. The standard Auto-MDI/MDI-X support can detect the type of connection to any Ethernet device without requiring special straight or crossover cables.

2.1.1 Product Overview

The PLANET Industrial Gigabit Ethernet Switch with 8 RJ-45 10/100/1000Mbps ports and 2 SFP shared interfaces, for high-speed network connectivity. The Industrial Gigabit Ethernet Switch can also automatically identify and determine the correct transmission speed and half / full duplex mode of the attached devices with its 8 ports. The Gigabit ports can handle extremely large amounts of data transmission in a secure topology linking to a backbone or high-power servers, the Gigabit fiber optical uplink capability can guarantee the throughput to all nodes hooked into the network and distance can be extended up to above 120 kilometers with SFP module.

The Industrial Gigabit Ethernet Switch also supports Store-and-Forward forwarding scheme to ensure low latency and high data integrity, eliminates unnecessary traffic and relieves congestion on critical network paths. With an intelligent address recognition algorithm, the Industrial Gigabit Ethernet Switch could recognize up to 8K different MAC address and enables filtering and forwarding at full wire speed.

2.1.2 Switch Front Panel

Figure 2-1 shows a front panel of Industrial Gigabit Ethernet Switch.

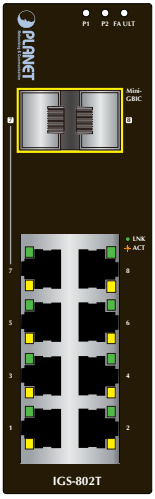


Figure 2-1: IGS-802T front panel

2.1.3 LED Indicators

LED	Color	Function
P1	Green	**Lit:** indicate the power 1 has power.
P2	Green	**Lit:** indicate the power 2 has power.
FAULT	Green	**Lit:** indicate the either power 1 or power 2 has no power.
LNK	Green	**Lit:** indicate the Switch is successfully connecting to the network at 10/100/1000Mbps.
ACT	Orange	**Blink:** indicate that the Switch is actively sending or receiving data over that port. **Off:** indicate that the Switch is inactively sending or receiving data over that port.

2.1.4 Switch Upper Panel

The upper panel of the Industrial Gigabit Ethernet Switch consist one terminal block connector within two DC power inputs. Figure 2-2 shows the upper panel of the Switch.

Figure 2-2 shows upper panel of Industrial Gigabit Ethernet Switch.

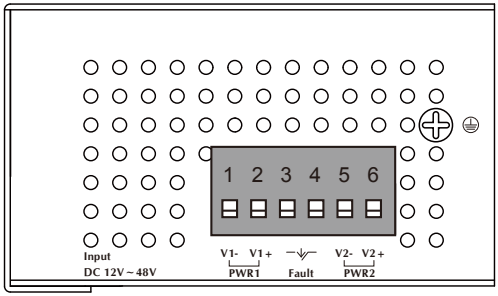
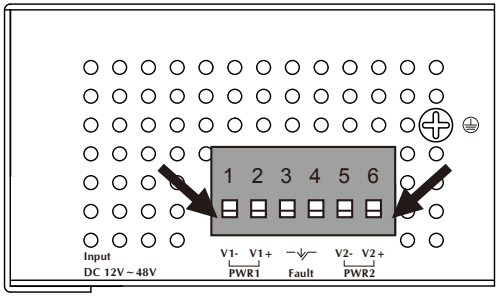


Figure 2-2: Industrial Gigabit Ethernet Switch upper Panel.

2.1.5 Wiring the Power Inputs

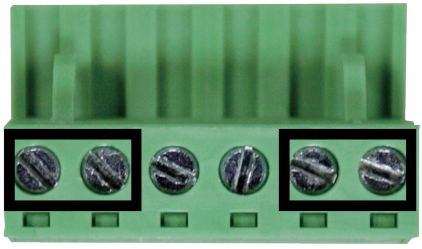
The 6-contact terminal block connector on the top panel of Industrial Gigabit Ethernet Switch is used for two DC redundant powers input. Please follow the steps below to insert the power wire.

1. Insert positive / negative DC power wires into the contacts 1 and 2 for POWER 1, or 5 and 6 for POWER 2.



V1- V1 + V2 - V2 +

2. Tighten the wire-clamp screws for preventing the wires from loosing.

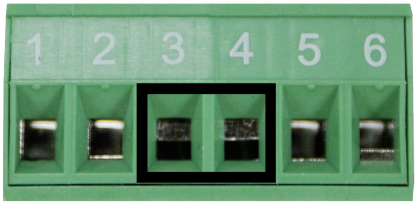


Note

The wire gauge for the terminal block should be in the range between 12 ~ 24 AWG.

2.1.6 Wiring the Fault Alarm Contact

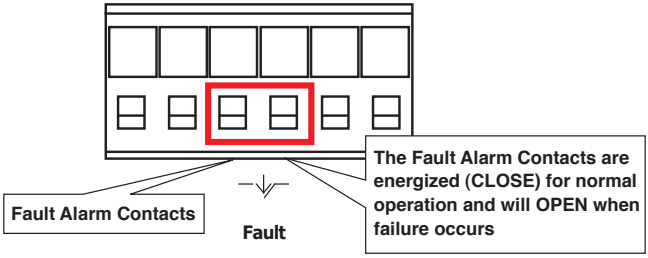
The fault alarm contacts are in the middle of the terminal block connector as the picture shows below. Inserting the wires, the Industrial Gigabit Ethernet Switch will detect the fault status of the power failure, or port link failure (available for managed model) and then forms an open circuit. The following illustration shows an application example for wiring the fault alarm contacts.



Insert the wires into the fault alarm contacts

Note

1. The wire gauge for the terminal block should be in the range between 12 ~ 24 AWG.
2. Alarm relay circuit accepts up to 30V, max. 3A currents.


Fault Alarm Contacts
Fault
The Fault Alarm Contacts are energized (CLOSE) for normal operation and will OPEN when failure occurs

2.1.7 Installing the SFP transceiver

The sections describe how to insert an SFP transceiver into an SFP slot.

The SFP transceivers are hot-pluggable and hot-swappable. You can plug-in and out the transceiver to/from any SFP port without having to power down the Industrial Gigabit Ethernet Switch. As the Figure 2-3 appears.

Figure 2-3: Plug-in the SFP transceiver

■ Approved PLANET SFP Transceivers

PLANET Industrial Gigabit Ethernet Switch supports both Single mode and Multi-mode SFP transceiver. The following list of approved PLANET SFP transceivers is correct at the time of publication:

MGB-TSX	SFP-Port 1000Base-SX mini-GBIC module - 550m (-40~75°C)
MGB-TLX	SFP-Port 1000Base-LX mini-GBIC module - 10km (-40~75°C)
MGB-TL30	SFP-Port 1000Base-LX mini-GBIC module - 30km (-40~75°C)
MGB-TL70	SFP-Port 1000Base-LX mini-GBIC module - 70km (-40~75°C)

Before connect the other switches, workstation or Media Converter.

1. Make sure both side of the SFP transceiver are with the same media type, for example: 1000Base-SX to 1000Base-SX, 1000Bas-LX to 1000Base-LX.

2. Check the fiber-optic cable type match the SFP transceiver model.

   - To connect to 1000Base-SX SFP transceiver, use the Multi-mode fiber cable- with one side must be male duplex LC connector type.
   - To connect to 1000Base-LX SFP transceiver, use the Single-mode fiber cable-with one side must be male duplex LC connector type.

■ Connect the fiber cable

1. Attach the duplex LC connector on the network cable into the SFP transceiver.

2. Connect the other end of the cable to a device – switches with SFP installed, fiber NIC on a workstation or a Media Converter.

3. Check the LNK/ACT LED of the SFP slot on the front of the Industrial Gigabit Ethernet Switch. Ensure that the SFP transceiver is operating correctly.

■ **Remove the transceiver module**

1. Make sure there is no network activity by consult or check with the network administrator. Or through the management interface of the switch/converter (if available) to disable the port in advance.
2. Remove the Fiber Optic Cable gently.
3. Turn the handle of the MGB module to horizontal.
4. Pull out the module gently through the handle.

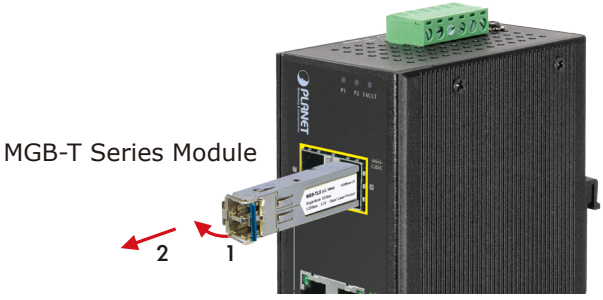


Figure 2-4: Pull out from the transceiver

Note	Never pull out the module without pull the handle or the push bolts on the module. Direct pull out the module with violent could damage the module and SFP module slot of the Industrial Gigabit Ethernet Switch.

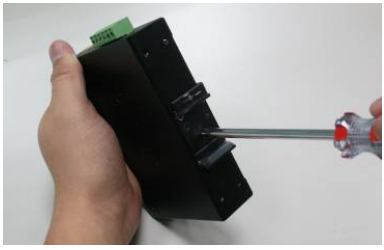
2.2 Mounting Installation

This section describes how to install the Industrial Gigabit Ethernet Switch and make connections to it. Please read the following topics and perform the procedures in the order being presented.

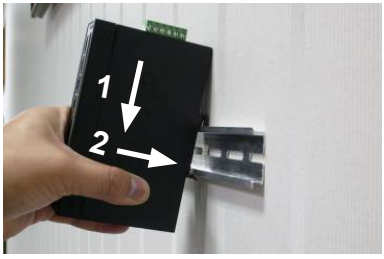
Note	In the installation steps below, this Manual use IGS-801 (PLANET 8 Port Industrial Gigabit Switch) as the example. However, the step for PLANET Industrial Gigabit Ethernet Switch is similar.

2.2.1 DIN-Rail Mounting

The DIN-Rail is screwed on the Industrial Gigabit Ethernet Switch when out of factory. When need to replace the wall mount application with DIN-Rail application on Industrial Gigabit Ethernet Switch, please refer to following figures to screw the DIN-Rail on the Industrial Gigabit Ethernet Switch. To hang the Industrial Gigabit Ethernet Switch, follow the below steps:



Step 1: screw the DIN-Rail on the Industrial Gigabit Ethernet Switch.



Step 2: Lightly press the button of DIN-Rail into the track.

Step 3: Check the DIN-Rail is tightly on the track.

Step 4: Please refer to following procedures to remove the Industrial Gigabit Ethernet Switch from the track.

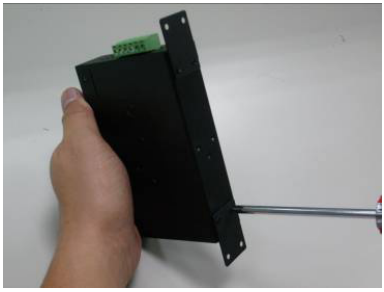
Step 5: Lightly press the button of DIN-Rail for remove it from the track.

2.2.2 Wall Mount Plate Mounting

To install the Industrial Gigabit Ethernet Switch on the wall, please follows the instructions described below.

Step 1: Remove the DIN-Rail from the Industrial Gigabit Ethernet Switch; loose the screws to remove the DIN-Rail.

Step 2: Place the wall mount plate on the rear panel of the Industrial Gigabit Ethernet Switch.



Step 3: Use the screws to screw the wall mount plate on the Industrial Gigabit Ethernet Switch.

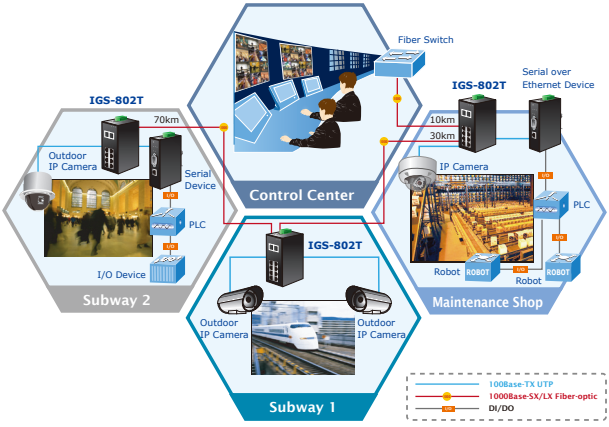
Step 4: Use the hook holes at the corners of the wall mount plate to hang the Industrial Gigabit Ethernet Switch on the wall.

Step 5: To remove the wall mount plate, reverse steps above.

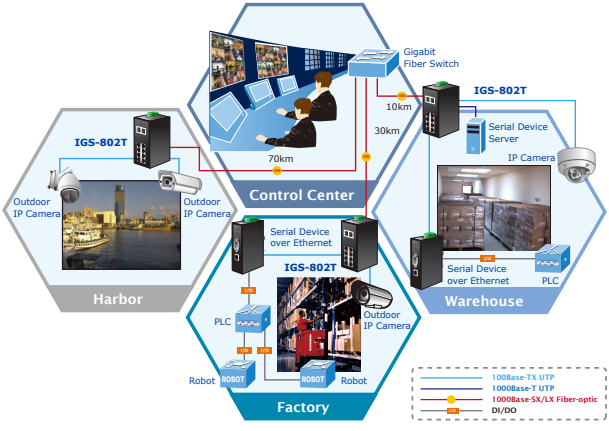
3. Applicaiton

In this paragraph, we will describe how to install Industrial Gigabit Ethernet Switch and the installation points for the attention.

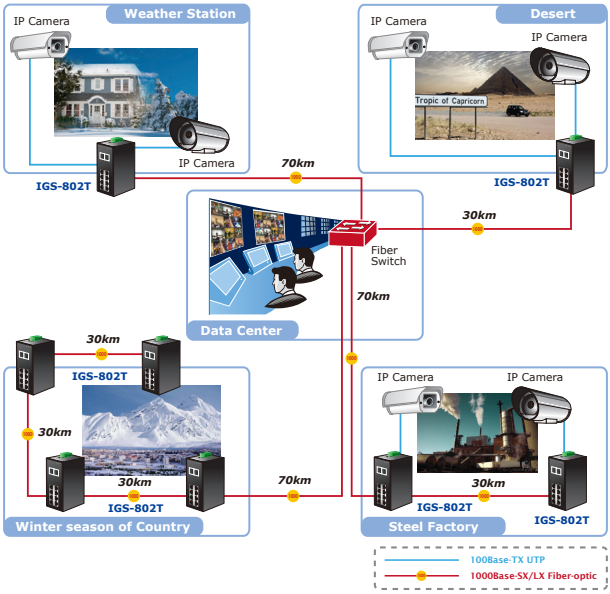
Public Construction



Industrial Operating Environment



Harsh Climate



Installation Steps

Step 1: Unpack the Industrial Gigabit Ethernet Switch.

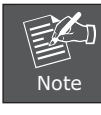
Step 2: Check the DIN-Rail is screwed on the Industrial Gigabit Ethernet Switch. (Please refer to DIN-Rail Mounting section for DIN-Rail installation If the DIN-Rail is not screwed on the Industrial switch). If you want to wall mount the Industrial Gigabit Ethernet Switch, then please refer to Wall Mount Plate Mounting section for wall mount plate installation.

Step 3: To hang the Industrial Gigabit Ethernet Switch on the DIN-Rail track or wall, please refer to the Mounting Installation section.

Step 4: Power on the Industrial Gigabit Ethernet Switch. (Please refer to the Wiring the Power Inputs section for power input) The power LED on the Industrial Gigabit Ethernet Switch will light up. Please refer to the LED Indicators section for meaning of LED lights.

Step 5: Prepare the twisted-pair, straight through Category 5 cable for Ethernet connection.

Step 6: Insert one side of Category 5 cables into the Industrial Gigabit Ethernet Switch Ethernet port (RJ-45 port) and another side of category 5 cables to the network devices' Ethernet port (RJ-45 port), ex: switch, Pc or Server. The UTP port (RJ-45) LED on the Industrial Gigabit Ethernet Switch will light up when the cable connected with the network device. Please refer to the LED Indicators section for LED light meaning.



Be sure the connected network devices support MDI/MDI-X. If it does not support then use the crossover category 5 Cable.

Step 7: When all connections are all set and LED lights all show in normal, the installation is complete.

4. Switch Operation

4.1 Address Table

The Industrial Gigabit Ethernet Switch is implemented with an address table. This address table composed of many entries. Each entry is used to store the address information of some node in network, including MAC address, port no, etc. This information comes from the learning process of Industrial Gigabit Ethernet Switch.

4.2 Learning

When one packet comes in from any port. The Industrial Gigabit Ethernet Switch will record the source address, port no. And the other related information in address table. This information will be used to decide either forwarding or filtering for future packets.

4.3 Forwarding & Filtering

When one packet comes from some port of the Industrial Gigabit Ethernet Switch, it will also check the destination address besides the source address learning. The Industrial Gigabit Ethernet Switch will lookup the address-table for the destination address. If not found, this packet will be forwarded to all the other ports except the port which this packet comes in. And these ports will transmit this packet to the network it connected. If found, and the destination address is located at different port from this packet comes in, the Industrial Gigabit Ethernet Switch will forward this packet to the port where this destination address is located according to the information from address table. But, if the destination address is located at the same port with this packet comes in, then this packet will be filtered. Thereby increasing the network throughput and availability.

4.4 Store-and-Forward

Store-and-Forward is one type of packet-forwarding techniques. A Store-and Forward Industrial Gigabit Ethernet Switch stores the incoming frame in an internal buffer, do the complete error checking before transmission. Therefore, no error packets occurrence, it is the best choice when a network needs efficiency and stability.

The Industrial Gigabit Ethernet Switch scans the destination address from the packet-header, searches the routing table provided for the incoming port and forwards the packet, only if required. The fast forwarding makes the switch attractive for connecting servers directly to the network, thereby increasing throughput and availability. However, the switch is most commonly used to segment existing hubs, which nearly always improves overall performance. An Ethernet Switching can be easily configured in any Ethernet network environment to significantly boost bandwidth using conventional cabling and adapters.

Due to the learning function of the Industrial Gigabit Ethernet Switch, the source address and corresponding port number of each incoming and outgoing packet are stored in a routing table. This information is subsequently used to filter packets whose destination address is on the same segment as the source address. This confines network traffic to its respective domain, reducing the overall load on the network.

The Industrial Gigabit Ethernet Switch performs **"Store and Forward"** therefore, no error packets occur. More reliably, it reduces the re-transmission rate. No packet loss will occur.

4.5 Auto-Negotiation

The STP ports on the Industrial Gigabit Ethernet Switch have built-in **"Auto-negotiation"**. This technology automatically sets the best possible bandwidth when a connection is established with another network device (usually at Power On or Reset). This is done by detect the modes and speeds at the second of both device is connected and capable of, both 10Base-T and 100Base-TX devices can connect with the port in either Half- or Full-Duplex mode. 1000Base-T can be only connected in Full-duplex mode.

5. Troubleshooting

This chapter contains information to help you solve issues. If the Industrial Gigabit Ethernet Switch is not functioning properly, make sure the Industrial Gigabit Ethernet Switch was set up according to instructions in this manual.

The per port LED is not lit

Solution:

Check the cable connection of the Industrial Gigabit Ethernet Switch.

Performance is bad

Solution:

Check the speed duplex mode of the partner device. The Industrial Gigabit Ethernet Switch is run at Auto-negotiation mode and if the partner is set to half duplex, then the performance will be poor.

Per port LED is lit, but the traffic is irregular

Solution:

Check that the attached device is not set to dedicate full duplex. Some devices use a physical or software switch to change duplex modes. Auto-negotiation may not recognize this type of full-duplex setting.

Why the Industrial Gigabit Ethernet Switch doesn't connect to the network

Solution:

Check per port LED on the Industrial Gigabit Ethernet Switch. Try another port on the Industrial Gigabit Ethernet Switch Make sure the cable is installed properly Make sure the cable is the right type Turn off the power. After a while, turn on power again.

Can I install MGB-SX or other non wide temperature SFP module into SFP slot of Industrial Gigabit Ethernet Switch?

Solution:

Yes, it does. However, since the MGB-SX and other non wide temperature SFP module cannot operate under -40 to 75 Degree C. Please pay attention to this point.

Appendix A: Networking Connection

A.1 Switch's RJ-45 Pin Assignments

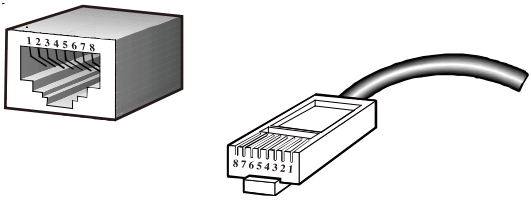
1000Mbps, 1000Base-T

Contact	MDI	MDI-X
1	BI_DA+	BI_DB+
2	BI_DA-	BI_DB-
3	BI_DB+	BI_DA+
4	BI_DC+	BI_DD+
5	BI_DC-	BI_DD-
6	BI_DB-	BI_DA-
7	BI_DD+	BI_DC+
8	BI_DD-	BI_DC-

10/100Mbps, 10/100Base-TX

RJ-45 Connector pin assignment		
Contact	MDI Media Dependant Interface	MDI-X Media Dependant Interface-Cross
1	Tx + (transmit)	Rx + (receive)
2	Tx - (transmit)	Rx - (receive)
3	Rx + (receive)	Tx + (transmit)
4, 5	Not used	
6	Rx - (receive)	Tx - (transmit)
7, 8	Not used	

A.2 RJ-45 cable Pin Assignments



The standard RJ-45 receptacle/connector

There are 8 wires on a standard UTP/STP cable and each wire is color-coded. The following shows the pin allocation and color of straight cable and crossover cable connection:

Straight Cable

	SIDE 1	SIDE 2
1 2 3 4 5 6 7 8 SIDE 1	1 = White/Orange	1 = White/Orange
	2 = Orange	2 = Orange
	3 = White/Green	3 = White/Green
	4 = Blue	4 = Blue
	5 = White/Blue	5 = White/Blue
1 2 3 4 5 6 7 8 SIDE 2	6 = Green	6 = Green
	7 = White/Brown	7 = White/Brown
	8 = Brown	8 = Brown

Cross Over Cable

	SIDE 1	SIDE 2
1 2 3 4 5 6 7 8 SIDE 1	1 = White/Orange	1 = White/Green
	2 = Orange	2 = Green
	3 = White/Green	3 = White/Orange
	4 = Blue	4 = Blue
	5 = White/Blue	5 = White/Blue
1 2 3 4 5 6 7 8 SIDE 2	6 = Green	6 = Orange
	7 = White/Brown	7 = White/Brown
	8 = Brown	8 = Brown

Figure A-1: Straight-Through and Crossover Cable

Please make sure your connected cables are with same pin assignment and color as above picture before deploying the cables into your network.

A.3 Fiber Optical Cable Connection Parameter

The wiring details are as below:

■ **Fiber Optical patch Cables:**

Standard	Fiber	Diameter (micron)	Modal Bandwidth (MHz * km)	Max. Distance (meters)
1000Base-SX	Multi-mode	62.5 62.5 50 50	100 200 400 500	220 275 500 550
1000Base-LX	Multi-mode	62.5 50 50	5 4 5	550
	Single-mode	9	N/A	5000
1000Base-ZX	Single-mode	9	NA	8000

A.4 Available SFP Modules

The following list the available Modules for IGS-802T.

PLANET SFP Model	Description
MGB-GT	SFP-Port 1000Base-T Module
MGB-SX	SFP-Port 1000Base-SX mini-GBIC module - 550m
MGB-LX	SFP-Port 1000Base-LX mini-GBIC module - 10km
MGB-L30	SFP-Port 1000Base-LX mini-GBIC module - 30km
MGB-L50	SFP-Port 1000Base-LX mini-GBIC module - 50km
MGB-L70	SFP-Port 1000Base-LX mini-GBIC module - 70km
MGB-L120	SFP-Port 1000Base-LX mini-GBIC module - 120km
MGB-LA10	SFP-Port 1000Base-LX (WDM, TX:1310nm) mini-GBIC module-10km
MGB-LB10	SFP-Port 1000Base-LX (WDM, TX:1550nm) mini-GBIC module-10km
MGB-LA20	SFP-Port 1000Base-LX (WDM, TX:1310nm) mini-GBIC module-20km
MGB-LB20	SFP-Port 1000Base-LX (WDM, TX:1550nm) mini-GBIC module-20km
MGB-LA40	SFP-Port 1000Base-LX (WDM, TX:1310nm) mini-GBIC module-40km
MGB-LB40	SFP-Port 1000Base-LX (WDM, TX:1550nm) mini-GBIC module-40km
MGB-TSX	SFP-Port 1000Base-SX mini-GBIC module - 550m (-40~75°C)
MGB-TLX	SFP-Port 1000Base-LX mini-GBIC module - 10km (-40~75°C)
MGB-TL30	SFP-Port 1000Base-LX mini-GBIC module - 30km (-40~75°C)
MGB-TL70	SFP-Port 1000Base-LX mini-GBIC module - 70km (-40~75°C)

EC Declaration of Conformity

For the following equipment:

*Type of Product: 8-Port 10/100/1000Mbps with 2 shared SFP Industrial Ethernet Switch (-40~75 Degree C)
*Model Number: IGS-802T

* Produced by:
Manufacturer's Name : **Planet Technology Corp.**
Manufacturer's Address: 10F., No.96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)

is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility Directive on (2004/108/EC).
For the evaluation regarding the EMC, the following standards were applied:

EN55022		(CLASS A: 2006)
EN 61000-3-2		(2006)
EN 61000-3-3		(1995 / A1: 2001 / A2: 2005)
EN55024		(1998 / A1: 2001 / A2: 2003)
	IEC 61000-4-2	(2001)
	IEC 61000-4-3	(2008)
	IEC 61000-4-4	(2004)
	IEC 61000-4-5	(2005)
	IEC 61000-4-6	(2008)
	IEC 61000-4-8	(2001)
	IEC 61000-4-11	(2004)

Responsible for marking this declaration if the:

☒ **Manufacturer** ☐ **Authorized representative established within the EU**

Authorized representative established within the EU (if applicable):

Company Name: **Planet Technology Corp.**

Company Address: **10F., No.96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)**

Person responsible for making this declaration

Name, Surname **Kent Kang**

Position / Title : **Product Manager**

Taiwan	**31 Dec., 2010**	
Place	*Date*	*Legal Signature*